

CLAIMS

What is claimed is:

1. A suture anchor for anchoring a suture to a body tissue, the suture anchor comprising:
a distal body portion for securing the suture anchor in the body tissue;
an aperture for receiving a portion of the suture; and
a deformable body portion for deforming the aperture to compress and grip the suture.
2. The suture anchor of claim 1 wherein the deformable body portion comprises a proximal body portion having the aperture formed transversely therethrough.
3. The suture anchor of claim 2 wherein the proximal body portion is deformable radially inwardly.
4. The suture anchor of claim 3 wherein the proximal body portion comprises at least two elongated body members forming sides of the aperture, at least one of the elongated body members being deformable radially inwardly to deform the aperture.
5. The suture anchor of claim 4 wherein at least one the elongated members is hingedly attached to the distal body portion for radial inward hinged movement from a suture receiving position to a suture gripping position.
6. The suture anchor of claim 3 wherein the proximal body portion include at least one channel angling away from the aperture to receive the suture in a recessed protected position.
7. The suture anchor of claim 1 wherein the distal body portion includes annular rings for gripping the body tissue.
8. The suture anchor of claim 1 further comprising means for holding the deformable body portion in the deformed position.

9. The suture anchor of claim 8 wherein the means for holding comprises a mechanism including a projection on one portion of the suture anchor and a recess for receiving the projection on another portion of the suture anchor, the projection locking in the recess to maintain the aperture in the deformed condition when the aperture is deformed.
10. The suture anchor of claim 1 wherein the eyelet is elongated distally to receive at least two suture ends arranged vertically within the eyelet.
11. The suture anchor of claim 1 wherein the eyelet is elongated radially to receive at least two suture ends arranged horizontally within the eyelet.
12. The suture anchor of claim 1 wherein the suture has first and second ends, the first end being fixed to the suture anchor and the second end being receivable by the undeformed aperture to form a sliding suture loop, the second end being gripped when the aperture is deformed to form a fixed suture loop.
13. The suture anchor of claim 1 wherein the deformable body portion is configured to deform upon insertion into a hole formed in the body tissue.
14. The suture anchor of claim 1 wherein the deformable body portion has a generally elliptical shape before it is deformed and a generally circular shape when it is deformed to grip the suture.
15. A unitary suture anchor for securing a suture to a bone without tying a knot comprising:
 - a distal body portion for securing the suture anchor to the bone;
 - a proximal body portion for securing the suture to the suture anchor, the proximal body portion comprising:

a pair of elongated and relatively movable first body members, at least one of the first body members being hingedly connected to the distal body portion, the first body members being relatively movable between a suture receiving position and a suture locking position;

a transverse suture receiving aperture interposed between the first body members for receiving the suture therein when the first body members are in the suture receiving position, the aperture being deformed to grip the suture when the first body members are in the suture locking position.

16. The suture anchor of claim 15 further comprising means for holding the first body members in the suture locking position.
17. The suture anchor of claim 16 wherein the proximal body portion further comprises a transverse body member extending from each of the first body members, the transverse body members and first body members forming a ratchet and pawl mechanism in which a portion of each transverse body member snaps over a portion of the opposing first body member to lock the first body members in the suture locking position.
18. The suture anchor of claim 16 wherein the proximal body portion further comprises a transverse body member extending from each of the first body members, the transverse body members being in relative sliding contact, the transverse body members forming a ratchet and pawl mechanism in which a portion of one transverse body member snaps over a portion of the other transverse body member to lock the first body members in the suture locking position.

19. The suture anchor of claim 15 wherein the suture anchor comprises a bioabsorbable material.
20. The suture anchor of claim 15 wherein the proximal body portion has a generally elliptical shape when the elongated members are in the suture receiving position and a generally circular shape when the elongated members are in the suture locking position.
21. The suture anchor of claim 15 wherein the proximal body portion include at least one channel angling away from the aperture to receive the suture in a recessed protected position.
22. A method for securing a suture to a body tissue, the method comprising:
providing a suture anchor having a distal body portion for securing the suture anchor in the body tissue, an aperture for receiving a portion of the suture, and a deformable body portion for deforming the aperture to compress and grip the suture;
inserting a portion of the suture through the aperture;
deforming the deformable body portion to deform the aperture and grip the suture;
and
inserting the suture anchor into the body tissue.
23. The method of claim 22 wherein the step of inserting the anchor into the body tissue simultaneously causes the deformable body portion to deform the aperture.
24. The method of claim 23 wherein the step of inserting the anchor into the body tissue comprises inserting the anchor into a hole formed in a bone and insertion of the suture anchor into the hole causes the deformable body portion to deform radially inwardly.
25. The method of claim 23 further comprising:
tensioning the suture while inserting the anchor.

26. The method of claim 22 wherein the suture anchor further comprises means for holding the deformable body portion in the deformed position and the method further comprises:

activating the means for holding the deformable body portion in the deformed position.